

ABSTRACT FORM FOR ALL GSA MEETINGS IN 1988

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No 3531

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PETROLOGY AND DIAGENESIS OF EOCENE CARBONATE SEDIMENTS, SAVANNAH RIVER PLANT, SC

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Subsurface carbonate strata include McBean Formation (U. Claibornian) and Griffins Landing Member (U. Jacksonian) of Dry Branch Formation. These units are patchily distributed along the updip Coastal Plain edge, but thicken and become laterally continuous downdip.

McBean Formation consists of skeletal calcilutite with minor subordinate biomicrite, biosparite, pelecypod-mold biosparrudite, and laminated skeletal mudstone. Broken and abraded fossils include echinoderms, bryozoans, foraminifers, pelecypods, gastropods barnacles. Fine, subangular quartz sand and glauconite form 5-15% of the unit. The McBean accumulated in a moderate to low energy shallow - shelf environment.

Griffins Landing Member consists of skeletal, kaolinitic quartz sand that grades into quartz-rich skeletal calcarenite and calcirudite. Subordinate lithologies are sandy, pelecypod-mold biomicrudite and biosparrudite, sandy biomicrite, and calcareous shale. Skeletal grains include Crassostrea gigantissima, mollusks, barnacles, echinoderms, crinoids, bryozoans, and foraminifers. Sand-sized allochems are rounded and abraded. Medium- to coarse-grained, poorly sorted quartz sand is abundant. Glauconite is rare. The Griffins Landing was deposited in a moderate to high energy, near shore environment.

Diagenetic events affecting carbonates include grain micritization, glauconitization, leaching of aragonitic allochems, skeletal recrystallization, neomorphism of micrite to microspar and pseudospar, precipitation of low-Mg calcite spar, and silicification.

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I would like this abstract considered for oral presentation at the following Theme Session for the Annual Meeting, Denver, 1988.

- ☐ 1 Diagenesis of lacustrine rocks
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- ☐ 3 Geophysical patterns in North America
- ☐ 4 Global aspects of sedimentary geology
- ☐ 5 Organic compounds in ground water
- ☐ 6 Paleontologic constraints on accreted terranes
- ☐ 7 Physics and chemistry of mylonites
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